

Banaras Hindu University

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MSc in Computatioinal Sc and App Signal Processing

Group Number :	1
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Break time:	0
Group Marks:	360

MSc in Computatioinal Sc and App Signal Processing

Section Id :	65898819
Section Number :	1
Section type :	Online
Mandatory or Optional:	Mandatory
Number of Questions:	120
Number of Questions to be attempted:	120
Section Marks:	360
Display Number Panel:	Yes
Group All Questions:	No

Sub-Section Number:	1
Sub-Section Id:	65898819
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 6589882021 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes
Correct Marks : 3 Wrong Marks : 1
Question Label : Multiple Choice Question

Consider the following segment of C program :

```
#include <stdio.h>
int main ()
{
    int x = 4, y, z;
    y = --x;
    z = x--;
    printf ("%d, %d, %d\n", x, y, z);
    return 0;
}
```

After the execution of the above code the output is :

Options :

1. 4, 3, 3
2. 4, 3, 2
3. 3, 3, 2
4. 2, 3, 3

Question Number : 2 Question Id : 6589882022 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Consider the following segment of C program :

```
int x, y, n;
x = 1;
y = 1;
if (n > 0)
    x = x + 1;
    y = y - 1;
```

After execution of above program segment the value of x and y if $n = 1$ is :

Options :

1. $x = 2, y = 0$
2. $x = 1, y = 0$
3. $x = 1, y = 1$

4. $x = 2, y = 1$

Question Number : 3 Question Id : 6589882023 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Consider the following segment of C program :

```
int x, y;  
x = 10;  
y = 7;  
while (x%y >=0)  
{  
    x = x + 1;  
    y = y + 2;  
}
```

Number of times the body of while loop is executed :

Options :

1. 2
2. 3
3. 4
4. 32758

Question Number : 4 Question Id : 6589882024 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Consider the following segment of C program :

```
int i, j;  
j = 0;  
for(i = 0; i <= 5; i = i + 2/3)  
{  
    j = j + 1;  
}
```

The number of times the body of for loop is executed :

Options :

1. 9

2. 8

3. infinite

4. 11

Question Number : 5 Question Id : 6589882025 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Consider the following segment of the C program :

```
#include <stdio.h>
#define SQR (x) (x*x)
int main ()
{
    int a, b = 3;
    a = SQR (b + 2);
    printf ("%d\n", a);
    return 0;
}
```

The output of the above program is :

Options :

1. 25

2. 11

3. 17

4. 13

Question Number : 6 Question Id : 6589882026 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

How many of the following declarations are correct ?

`int z = 7.0;`

`double void = 0.000;`

`short array [2] = {0, 1, 2};`

`char c = "\n";`

Options :

1. None
2. One is correct
3. Two are correct
4. All four are correct

Question Number : 7 Question Id : 6589882027 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Consider the following C program :

```
#include <stdio.h>
int main ()
{
    int a = 500, b = 100, c;
    if (!a >= 400)
        b = 300;
    c = 200;
    printf ("b = %d c = %d\n", b, c);
    return 0;
}
```

The output of the above program :

Options :

1. $b = 300$ $c = 200$
2. $b = 100$ $c =$ garbage
3. $b = 300$ $c =$ garbage
4. $b = 100$ $c = 200$

Question Number : 8 Question Id : 6589882028 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Consider the following C program :

```
#define int char
main ()
{
    int i = 65;
    printf ("sizeof (i)=%d", sizeof (i));
}
```

The output of the program will be :

Options :

1. sizeof (i) = 1
2. sizeof (1)
3. sizeof = 1
4. 1

Question Number : 9 Question Id : 6589882029 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Consider the following C program :

```
main ()
{
    int a = 10;
    if (a & 8 == 8)
        printf ("Bit no. 3 is on");
    else
        printf ("3rd bit is off");
}
```

The output of the program :

Options :

1. 3rd bit is off
2. No output

3. Error

4. Bit no. 3 is on

Question Number : 10 Question Id : 6589882030 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

What will be the output of the following program ?

```
main ()  
{  
    Static char s[] = "Rendezvous!"  
}
```

Options :

1. 0

2. !

3. \n

4. t

Question Number : 11 Question Id : 6589882031 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Consider the following segment of C program :

```
m = 1;  
do  
{  
    m = m + 2;  
} while (m < 10)
```

The number of times the body of do-while loop is executed :

Options :

1. 5

2. 3
3. 6
4. 7

Question Number : 12 Question Id : 6589882032 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Which of the following function receives the character from keyboard, but not echo the character ?

Options :

1. getchar()
2. getche()
3. getch()
4. fgetchar()

Question Number : 13 Question Id : 6589882033 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Consider the following C segment :

```
main()
{
    int i;
    for (i = -1; i <= 10; i++)
    {
        if (i < 5)
            continue;
        else
            break;
        printf("%d", i);
    }
}
```

The output of above program :

Options :

1. -1, 0, 2, 3, 4, 5, 6, 7, 8, 9, 10
2. -1, 0, 1, 2, 3, 4
3. 5, 6, 7, 8, 9, 10
4. No output

Question Number : 14 Question Id : 6589882034 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes
Correct Marks : 3 Wrong Marks : 1
Question Label : Multiple Choice Question

Consider the following C segment :

```
main()
{
    int j, x;
    x = 0;
    for (j = 0; j <= 5; j++)
    {
        switch (j - 1)
        {
            case 0:
            case -1:
                x += 1;
                break;
            case 1:
            case 2:
            case 3:
                x += 2;
                break;
            default:
                x += 3;
        }
        printf("%d", x);
    }
}
```

The output of the above program :

Options :

1. 1, 2, 4, 6, 8, 11
2. -1, 0, 1, 2, 3, 4
3. 1, 2, 4, 5, 6, 7
4. 1, 2, 3, 4, 5

Question Number : 15 Question Id : 6589882035 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

In the following C program consider that short int is 2 byte wide

```
#include <stdio.h>
int main()
{
    int j = 1;
    while(j <=255)
    {
        printf("%c %d\n", j, j);
        j++;
    }
    return 0;
}
```

How many times the while loop will get executed if a short int is 2 byte wide ?

Options :

1. Infinite times
2. 255 times
3. 256 times
4. 254 times

Question Number : 16 Question Id : 6589882036 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Which of the following Boolean Expression is in standard POS form ?

Options :

1. $(A + B) . (A + B + \overline{C})$
2. $ABC + A\overline{B}\overline{C}$
3. $(A + B + \overline{C}) (A + \overline{B} + \overline{C})$
4. $(A + B + \overline{C}) + A$

Question Number : 17 Question Id : 6589882037 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

The decimal number -25 is expressed in the 2's complement form as :

Options :

1. 00011001
2. 11100111
3. 11100110
4. 11100101

Question Number : 18 Question Id : 6589882038 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

In decimal the 2's complement form, the binary number 11111110 is equal to :

Options :

1. -0
2. -254
3. -2
4. -1

Question Number : 19 Question Id : 6589882039 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

The hexadecimal number for $(23132133)_4$ is :

Options :

1. B79F
2. A79F

3. B79E

4. B79FF

Question Number : 20 Question Id : 6589882040 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

How many octal digits are required to represent a decimal number 3255 ?

Options :

1. 5

2. 10

3. 3

4. 4

Question Number : 21 Question Id : 6589882041 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

How many bits are used to represent an Exponent in single-precision floating point binary number representation ?

Options :

1. 10

2. 9

3. 8

4. 23

Question Number : 22 Question Id : 6589882042 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

The decimal number 250 is equal to binary number :

Options :

1. 11111001

2. 11111010

3. 11111011

4. 11110111

Question Number : 23 Question Id : 6589882043 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Consider the following C program :

```
main()
{
    int a = 12; i = 0;
    while (a >>= i)
    {
        printf ("a = %d i = %d\n", a, i);
        i++;
    }
}
```

The output of the program :

Options :

1. a = 12 i = 0

2. a = 12 i = 0
a = 6 i = 1

3. a = 12 i = 0
a = 6 i = 1
a = 1 i = 2

4. a = 12 i = 0
a = 6 i = 2
a = 1 i = 4

Question Number : 24 Question Id : 6589882044 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Octal equivalent of $(11011001)_2$ is :

Options :

1. 662
2. 331
3. 139
4. 89

Question Number : 25 Question Id : 6589882045 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

The value of the hexadecimal sum $(DF)_{16} + (AC)_{16}$:

Options :

1. 18B
2. 17A
3. 18C
4. 1AB

Question Number : 26 Question Id : 6589882046 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

In a 4-variable Karnaugh map, a 1-variable sum term is produced by :

Options :

1. A 4-cell group of 1's
2. A 8-cell group of 1's
3. A 8-cell group of 0's
4. A 4-cell group of 0's

Question Number : 27 Question Id : 6589882047 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Boolean expression $\overline{A} + AB$ is equivalent to :

Options :

1. $A + B$
2. $\overline{A + B}$
3. $\overline{A} + B$
4. \overline{AB}

Question Number : 28 Question Id : 6589882048 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

The Boolean expression $(X + Y) \cdot (X + \overline{Y}) + (\overline{X\overline{Y}} + \overline{X})$ simplifies to :

Options :

1. Y
2. X
3. XY
4. $X + Y$

Question Number : 29 Question Id : 6589882049 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Which Boolean expression is for Ex-OR ?

Options :

1. $\overline{AB} + A\overline{B}$
2. $AB + \overline{AB}$

3. $\overline{A} + B$

4. \overline{AB}

Question Number : 30 Question Id : 6589882050 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

For half adder the Boolean expression for sum (S) and carry (C) for input A and B is given by :

Options :

1. $S = A\overline{B} + \overline{A}B, C = AB$

2. $S = AB + \overline{AB}, C = \overline{AB}$

3. $S = A \oplus B, C = AB$

4. $S = A\overline{B} + \overline{A}B, C = AB$ and $S = A \oplus B, C = AB$ Both

Question Number : 31 Question Id : 6589882051 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

In sequential circuit o/p depends on :

Options :

1. present input only

2. past input only

3. present as well as past input

4. neither present nor past inputs

Question Number : 32 Question Id : 6589882052 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Characteristics equation for JK flip-flop is :

Options :

1. $Q_{n+1} = J\bar{Q}_n + \bar{K}Q_n$

2. $Q_{n+1} = JQ_n + KQ_n$

3. $Q_{n+1} = \bar{J}\bar{Q}_n$

4. $Q_{n+1} = \bar{K}Q_n$

Question Number : 33 Question Id : 6589882053 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Which is true for D-flip flop ?

Options :

1. Output is same as input
2. Output is complement of input
3. Output does not depend on input
4. Outputs depend on past input and clock

Question Number : 34 Question Id : 6589882054 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Which data type is most suitable for storing a number 65000 in a 32-bit system ?

Options :

1. signed short
2. unsigned short
3. long
4. int

Question Number : 35 Question Id : 6589882055 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Which statement is most appropriate for coprocessor ?

- (i) Coprocessor is design to provide fast, low-cost hardware implementation for complicated arithmetic function.
- (ii) Coprocessor is a separate instruction set processor that is closely coupled to the CPU.
- (iii) Coprocessor is a processor whose instructions and registers are direct extension of CPU^S.

Options :

- 1. i, ii only
- 2. ii, iii only
- 3. i, iii only
- 4. i, ii, iii all

Question Number : 36 Question Id : 6589882056 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Give the correct matching for the following pairs :

- | | |
|-----------------------|------------------|
| A. Bubble Sort | 1. $O(\log n)$ |
| B. Binary Search | 2. $O(n)$ |
| C. Binary Tree Search | 3. $O(n^2)$ |
| D. Merge Sort | 4. $O(n \log n)$ |

Options :

- 1. A-3 B-1 C -2 D -4
- 2. A-3 B -1 C - 4 D - 2
- 3. A-1 B -3 C - 4 D - 2
- 4. A-1 B -4 C - 3 D - 2

Question Number : 37 Question Id : 6589882057 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Which of the following sorting algorithms has the lowest worst-case complexity ?

Options :

1. Quick sort
2. Merge sort
3. Bubble sort
4. Insertion sort

Question Number : 38 Question Id : 6589882058 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

An example of data storage device is :

Options :

1. Multiplexer
2. Register
3. Full Adder
4. Decoder

Question Number : 39 Question Id : 6589882059 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

The number of distinct Boolean expression of 4 variable is :

Options :

1. 16
2. 256
3. 1024

4. 65536

Question Number : 40 Question Id : 6589882060 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

For n variable Boolean expression how many cells or squares in Karnaugh Map (K-map) :

Options :

1. $2n$
2. n^2
3. 2^n
4. n^n

Question Number : 41 Question Id : 6589882061 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Let $M_2(Z_2)$ denote the set of all 2×2 matrices with entries from Z_2 , where Z_2 denotes the set of integers modulo 2. The function $f : M_2(Z_2) \rightarrow M_2(Z_2)$ given by $f(x) = x^2$ is :

Options :

1. injective but not surjective
2. bijective
3. surjective but not injective
4. neither injective nor surjective

Question Number : 42 Question Id : 6589882062 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Consider the function $f : \mathbb{R} \rightarrow \mathbb{R}$ given by $f(x) = (x - 2) | (x - 2)(x - 3) |$. The function f is :

Options :

1. differentiable at $x = 2$ but not at $x = 3$
2. differentiable at $x = 3$ but not at $x = 2$
3. differentiable at $x = 2$ and $x = 3$
4. differentiable both neither at $x = 2$ nor at $x = 3$

Question Number : 43 Question Id : 6589882063 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

The equation $x^2 + y^2 = 2$ represents the :

Options :

1. parabola
2. pair of lines
3. hyperbola
4. ellipse

Question Number : 44 Question Id : 6589882064 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Consider $\triangle ABC$. Take 3 points on AB , 4 on BC and 5 on CA such that none of the points are vertices of $\triangle ABC$. The number of triangles that can be constructed using these points is :

Options :

1. 60
2. 205
3. 145
4. 120

Question Number : 45 Question Id : 6589882065 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Suppose $f(x)$ and $g(x)$ are real-valued differentiable functions such that $f'(x) \geq g'(x)$ for all x in $[0, 1]$. Which of the following is necessarily true ?

Options :

1. $f(1) \geq g(1)$
2. $f(1) - g(1) \geq f(0) - g(0)$
3. $f - g$ has no maximum on $[0, 1]$
4. $f + g$ is a non-decreasing function on $[0, 1]$

Question Number : 46 Question Id : 6589882066 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

For a real number x we let $[x]$ denote the largest integer not exceeding x . For a natural number n , let $a_n = \frac{[n\sqrt{2}]}{n}$. The limit $\lim_{n \rightarrow \infty} a_n$ is :

Options :

1. 0
2. $[\sqrt{2}]$
3. $\sqrt{2}$
4. does not exist

Question Number : 47 Question Id : 6589882067 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

The value of $\lim_{x \rightarrow 1} \frac{\int_1^x e^{t^2} dt}{x^2 - 1}$ is :

Options :

1. 0
2. 1
3. e
4. $e/2$

Question Number : 48 Question Id : 6589882068 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
 Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
 No Control Enable : Yes
 Correct Marks : 3 Wrong Marks : 1
 Question Label : Multiple Choice Question

Let $q \in \mathbb{N}$. The number of elements in set $\left\{ \left(\cos \frac{\pi}{q} + i \sin \frac{\pi}{q} \right)^n \mid n \in \mathbb{N} \right\}$ is :

Options :

1. 1
2. q
3. infinite
4. $2q$

Question Number : 49 Question Id : 6589882069 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
 Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
 No Control Enable : Yes
 Correct Marks : 3 Wrong Marks : 1
 Question Label : Multiple Choice Question

If $\alpha_1, \alpha_2, \alpha_3, \alpha_4$ are roots of the equation $x^4 + x^3 + 1 = 0$, then the value of $(1 - 2\alpha_1)(1 - 2\alpha_2)(1 - 2\alpha_3)(1 - 2\alpha_4)$ is equal to :

Options :

1. 19
2. 16
3. 15

4. 20

Question Number : 50 Question Id : 6589882070 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

There are ways in which n identical balls can be grouped such that each group contains equal number of balls. Then the minimum value of n is :

Options :

1. 120

2. 180

3. 160

4. 90

Question Number : 51 Question Id : 6589882071 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Let $A = \{1, 2, 3\}$. Then the number of one-one functions from A onto A is :

Options :

1. 1

2. 2

3. 3

4. 6

Question Number : 52 Question Id : 6589882072 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Let Z be the set of all integers and let $*$ be a binary operation in Z defined by
 $a * b = a + b + 10$ for $a, b \in Z$. The identity element of the group $(Z, *)$ is :

Options :

1. 0
2. 10
3. -10
4. 1

Question Number : 53 Question Id : 6589882073 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
 Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
 No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

The number of non-isomorphic groups of order 101 is :

Options :

1. 1
2. 2
3. 3
4. infinite

Question Number : 54 Question Id : 6589882074 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
 Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
 No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

The number of distinct cycles of length r in S_n is :

Options :

1. $\frac{1}{n} \frac{r!}{(n-r)!}$
2. $\frac{1}{r} \frac{(n+1)!}{(n-r)!}$
3. $\frac{1}{r} \frac{n!}{(n-r)!}$

$$4. \frac{1}{n} \frac{(r+1)!}{(n-r)!}$$

Question Number : 55 Question Id : 6589882075 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Which one of the following is *not* a subspace of the vector space of $n \times n$ matrices over a field F ?

Options :

1. The set of all upper (lower) triangular matrices of order n
2. The set of all non-singular (singular) matrices of order n
3. The set of all symmetric (skew-symmetric) matrices of order n
4. The set of all diagonal matrices of order n .

Question Number : 56 Question Id : 6589882076 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Consider the basis $B = \{v_1, v_2, v_3\}$ of \mathbb{R}^3 where $v_1 = (1, 1, 1)$, $v_2 = (1, 1, 0)$, $v_3 = (1, 0, 0)$ and let $T: \mathbb{R}^3 \rightarrow \mathbb{R}^2$ be a linear transformation such that $T(v_1) = (1, 0)$, $T(v_2) = (2, -1)$, $T(v_3) = (4, 3)$. Then $T(2, -3, 5)$ is equal to :

Options :

1. $(-1, 5)$
2. $(0, 0)$
3. $(3, 4)$
4. $(9, 23)$

Question Number : 57 Question Id : 6589882077 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

If W_1 and W_2 are two inner product spaces then $W_1 + W_2$ is :

Options :

1. not a vector space
2. a vector space
3. not an inner product space
4. an inner product space

Question Number : 58 Question Id : 6589882078 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Let A and B be square matrices of order n . If A is similar to B , then which one of the following is true ?

Options :

1. $\text{tr}(A) = \text{tr}(B)$
2. $\text{tr}(A) > \text{tr}(B)$
3. $\text{tr}(A) < \text{tr}(B)$
4. $\text{tr}(A) \neq \text{tr}(B)$

Question Number : 59 Question Id : 6589882079 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Let $\{a_n\}, \{b_n\}$ be two bounded sequences. Then :

Options :

1. $\overline{\lim}(a_n + b_n) \leq \overline{\lim} a_n + \overline{\lim} b_n$
2. $\overline{\lim}(a_n + b_n) \geq \overline{\lim} a_n + \overline{\lim} b_n$
3. $\overline{\lim}(a_n + b_n) = \overline{\lim} a_n + \overline{\lim} b_n$
4. $\overline{\lim}(a_n + b_n) \leq \underline{\lim}(a_n + b_n)$

Question Number : 60 Question Id : 6589882080 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

The set $A = \left\{ \frac{p}{q} : p \in \mathbb{Z}, q \in \mathbb{Z}^+, \gcd(p, q) = 1 \right\}$ is :

Options :

1. uncountable
2. bounded and finite
3. countable
4. countable and bounded

Question Number : 61 Question Id : 6589882081 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Let $f: [a, b] \rightarrow \mathbb{R}$ be a continuous function, such that $f(a) < f(b)$. Then :

Options :

1. $f([a, b]) \subseteq [f(a), f(b)]$
2. $f([a, b]) \supseteq [f(a), f(b)]$
3. $f([a, b]) = [f(a), f(b)]$
4. $f([a, b]) \neq [f(a), f(b)]$

Question Number : 62 Question Id : 6589882082 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

The series $\sum_{n=1}^{\infty} \frac{\sin nx}{n^2}$ is :

Options :

1. uniformly convergent
2. only point-wise convergent

3. divergent
4. oscillatory

Question Number : 63 Question Id : 6589882083 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

The power series $\sum_{n=1}^{\infty} \frac{e^n}{(2n)!} x^n$ is :

Options :

1. everywhere convergent
2. nowhere convergent
3. convergent for $|x| < 1$ only
4. convergent for $|x| > 1$ only

Question Number : 64 Question Id : 6589882084 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

If f is analytic in a domain, then :

Options :

1. f' is analytic in the domain
2. f'' is analytic but f' is not analytic in the domain
3. f' is analytic but f'' is not analytic in the domain
4. neither f' nor f'' is analytic in the domain

Question Number : 65 Question Id : 6589882085 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

The value of the integral $\int_C \frac{dz}{z^2+9}$, where C is the ellipse $\frac{x^2}{4} + \frac{y^2}{1} = 1$ and the integral is taken in positive sense, is :

Options :

1. 0
2. $2\pi i$
3. πi
4. $-2\pi i$

Question Number : 66 Question Id : 6589882086 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

The radius of convergence of the power series $\sum_{n=1}^{\infty} z^n$ is :

Options :

1. 1
2. 0
3. ∞
4. 2

Question Number : 67 Question Id : 6589882087 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

The Taylor's series for $\sin z$ is :

Options :

1. $z - \frac{z^3}{3!} + \frac{z^5}{5!} - \frac{z^7}{7!} + \dots$

2. $z + \frac{z^3}{3!} + \frac{z^5}{5!} + \frac{z^7}{7!} + \dots$

3. $z + \frac{z^2}{2!} + \frac{z^4}{4!} + \frac{z^6}{6!} + \dots$

4. $z - \frac{z^2}{2!} + \frac{z^4}{4!} - \frac{z^6}{6!} + \dots$

Question Number : 68 Question Id : 6589882088 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

The solution of the differential equation $(x+y)^2 \frac{dy}{dx} = a^2$ is given by, a being given constant and c be the constant of integration :

Options :

1. $(y+x) = a \tan\left(\frac{y-c}{a}\right)$

2. $(y-x) = a \tan(y-c)$

3. $(y-x) = \tan\left(\frac{y-c}{a}\right)$

4. $a(y-x) = \tan\left(\frac{y-c}{a}\right)$

Question Number : 69 Question Id : 6589882089 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

The family of straight lines passing through the origin is represented by the differential equation :

Options :

1. $ydx + xdy = 0$

2. $x dx + y dy = 0$

3. $x dy - y dx = 0$

4. $y dy - x dx = 0$

Question Number : 70 Question Id : 6589882090 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

If μ_1 and μ_2 are two integrating factors of the differential equation $Mdx + Ndy = 0$ whose ratio is not constant, then the general solution of the differential equation is :

Options :

1. $\mu_1 = c\mu_2$

2. $\mu_1 + \mu_2 = c$

3. $\mu_1 - \mu_2 = c$

4. $\mu_1 \mu_2 = c$

Question Number : 71 Question Id : 6589882091 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

The differential equation of orthogonal trajectories of the family of curves given by

$F\left(x, y, \frac{dy}{dx}\right) = 0$ is :

Options :

1. $F\left(x, y, -\frac{dy}{dx}\right) = 0$

2. $F\left(y, x, \frac{dy}{dx}\right) = 0$

3. $F\left(x, y, -\frac{dx}{dy}\right) = 0$

4. $F\left(y, x, \frac{dx}{dy}\right) = 0$

Question Number : 72 Question Id : 6589882092 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

The partial differential equation $y^2 u_{xx} - 2xy u_{xy} + x^2 u_{yy} = \frac{y^2}{x} u_x + \frac{x^2}{y} u_y$ is :

Options :

1. elliptic
2. parabolic
3. hyperbolic
4. elliptic if $x < 0, y < 0$; hyperbolic if $x > 0, y > 0$ and parabolic if $x = 0, y = 0$

Question Number : 73 Question Id : 6589882093 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

The general solution of $(D^2 - 3DD' + 2D'^2)z = e^{2x-y}$ is given by :

Options :

1. $z(x, y) = f(x+y) + g(2x+y) + \frac{1}{12} e^{2x-y}$
2. $z(x, y) = f(x+y) + g(2x+y) - \frac{1}{12} e^{2x-y}$
3. $z(x, y) = f(x-y) + g(2x-y) - \frac{1}{6} e^{2x-y}$
4. $z(x, y) = f(x-y) + g(2x+y) + \frac{1}{6} e^{2x-y}$

Question Number : 74 Question Id : 6589882094 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Given the LPP, $\text{Max } z = 2x_1 + 3x_2$

Subject to $3x_1 + x_2 \leq 3$

$$x_1 \geq 0, x_2 \geq 0$$

The optimal value of the objective function is :

Options :

1. 2
2. 9
3. 3
4. 1

Question Number : 75 Question Id : 6589882095 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Any solution to a general LPP which satisfies the non-negative restrictions of the problem, is called a :

Options :

1. basic solution
2. optimal solution
3. feasible solution
4. non-degenerate solution

Question Number : 76 Question Id : 6589882096 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

In the dual simplex method, the starting solution of an LPP must be :

Options :

1. optimal and feasible

2. non-optimal and feasible
3. optimal and infeasible
4. non-optimal and infeasible

Question Number : 77 Question Id : 6589882097 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
 Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Let A and B be two convex sets in R^n . Then which one of the following is not a convex set ?

Options :

1. $A \cup B$
2. $A \cap B$
3. $A + B$
4. $A - B$

Question Number : 78 Question Id : 6589882098 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
 Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

A particle is thrown upwards in vertical direction. If it is at height h after t_1 and t_2 seconds, the velocity v at half of its height will be :

Options :

1. $v = \frac{1}{2}g\sqrt{(t_1^2 + t_2^2)}$
2. $v = \frac{1}{2}g\sqrt{(t_1^2 - t_2^2)}$
3. $v = \frac{1}{2}g(t_1 + t_2)$
4. $v = \frac{1}{2}g(t_1^2 + t_2^2)$

Question Number : 79 Question Id : 6589882099 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

A particle is thrown with the velocity v such that its range on horizontal plane is twice the maximum height obtained. Its range will be :

Options :

1. $\frac{2v^2}{3g}$

2. $\frac{4v^2}{3g}$

3. $\frac{4v^2}{5g}$

4. $\frac{v^2}{7g}$

Question Number : 80 Question Id : 6589882100 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

A uniform rod of mass m and length $2a$ can turn freely about a fixed end. The least angular velocity with which it must be started from the lowest position so that it may just make complete revolution is :

Options :

1. $\sqrt{\frac{3g}{a}}$

2. $\sqrt{\frac{3a}{g}}$

3. $\sqrt{\frac{g}{3a}}$

4. $\sqrt{\frac{a}{3g}}$

Question Number : 81 Question Id : 6589882101 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Which of the following definitions is correct ?

Options :

1. An activity, which results in an outcome, is called an event
2. The probability of an event is expressed in decimal form ranging from -1 to $+1$
3. The sample space refers to all possible outcomes of an experiment
4. The probability that an event will occur is called the experiment

Question Number : 82 Question Id : 6589882102 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Which of the following statements is not correct ?

Options :

1. If only one of the two events A and B can occur, in other words, the occurrence of one excludes the occurrence of the other event, then events A and B are mutually exclusive
2. If event A does not occur, then its complement, \bar{A} will also not occur
3. A union of two events (eg: A or B) occurs when at least one of the two events occurs
4. If all possible outcomes of an experiment are represented by a set, the set is considered to be exhaustive

Question Number : 83 Question Id : 6589882103 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Two events, A and B, are said to be mutually exclusive if :

Options :

1. $P(A|B) = 1$

2. $P(B | A) = 1$

3. $P(A \text{ and } B) = 1$

4. $P(A \text{ and } B) = 0$

Question Number : 84 Question Id : 6589882104 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Two events, A and B, are said to be independent if :

Options :

1. $P(A \text{ and } B) = P(A) \cdot P(B)$

2. $P(A \text{ and } B) = P(A) + P(B)$

3. $P(A | B) = P(B)$

4. $P(B | A) = P(A)$

Question Number : 85 Question Id : 6589882105 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Fill in the missing word in the following statement with one of the options listed below :

Events are when the occurrence of one event has no effect on the probability that another event will occur.

Options :

1. mutually exclusive

2. independent

3. exhaustive

4. dependent

Question Number : 86 Question Id : 6589882106 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

X is the random variable, c is a constant, and V refers to the variance. Which of the following laws of variance is not correct ?

Options :

1. $V(c) = 0$
2. $V(X + c) = V(X)$
3. $V(X + c) = V(X) + c$
4. $V(cX) = c^2 V(X)$

Question Number : 87 Question Id : 6589882107 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

You are given that $P(A \text{ and } E) = 0.20$, $P(\bar{A} \text{ and } E) = 0.32$, $P(A \text{ and } \bar{E}) = 0.15$ and $P(\bar{A} \text{ and } \bar{E}) = 0.33$ (\bar{A} denotes the compliment of A). Which of the following statements about A and E is correct ?

Options :

1. A and E are mutually exclusive and independent
2. A and E are mutually exclusive and dependent
3. A and E are not mutually exclusive but are independent
4. A and E are not mutually exclusive and are dependent

Question Number : 88 Question Id : 6589882108 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

If $P(A) = 0.8$, $P(B) = 0.3$ and $P(A | B) = 0.6$, what is $P(A \text{ and } B)$?

Options :

1. 0.18
2. 0.24
3. 0.03

4. 0.30

Question Number : 89 Question Id : 6589882109 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

You are given the following : $P(A \text{ and } E) = 0.16$, $P(\bar{A} \text{ and } E) = 0.32$, and $P(\bar{A} \text{ and } \bar{E}) = 0.41$. What is $P(A)$?

Options :

1. 0.25

2. 0.27

3. 0.29

4. The data is insufficient to calculate the required probability.

Question Number : 90 Question Id : 6589882110 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

You are given the following : $P(A \text{ and } E) = 0.17$, $P(A \text{ and } \bar{E}) = 0.20$ and $P(\bar{A} \text{ and } \bar{E}) = 0.3$. What is $P(A | E)$?

Options :

1. 0.33

2. 0.34

3. 0.35

4. The data is insufficient to calculate the required probability.

Question Number : 91 Question Id : 6589882111 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

An X-ray test is used to detect a disease that occurs, initially without any obvious symptoms, in 3% of the population. The test has the following error rates: 7% of people who are disease free have a positive result and 2% of the people who have the disease have a negative result. A large number of people are screened at random using the test, and those with a positive result are examined further. What proportion of the tests conducted give incorrect results ?

Options :

1. 0.930
2. 0.302
3. 0.001
4. 0.069

Question Number : 92 Question Id : 6589882112 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

You are given the following probability distribution : $p(X = -1) = 0.4$, $p(X = 2) = 0.1$, $p(X = 3) = 0.3$ and $p(X = 7) = 0.2$. Which of the following is closest value of $V(3X - 1)$?

Options :

1. 80.2
2. 78.7
3. 99.5
4. 46.8

Question Number : 93 Question Id : 6589882113 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

According to a recent survey of households, the probability that the residents of a household own two cars if their annual household income is over Rs.1,50,000 is 80%. Of the households surveyed, 65% had incomes over Rs.1,50,000 and 70% had two cars. What is the probability that the residents of a household do not own two cars but do have an annual household income of over Rs.1,50,000 ?

Options :

1. 0.12
2. 0.10
3. 0.24
4. 0.13

Question Number : 94 Question Id : 6589882114 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Which of the following is *not* a characteristic of the normal distribution ?

Options :

1. It is a symmetrical distribution
2. The mean is always zero
3. The mean, median and mode are equal
4. It is a bell-shaped distribution

Question Number : 95 Question Id : 6589882115 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Which of the following is not a correct statement ?

Options :

1. The exponential distribution describes the Poisson process as a continuous random variable.
2. The exponential distribution is a family of curves, which are completely described by the mean.
3. The mean of the exponential distribution is the inverse of the mean of the Poisson.
4. The exponential distribution is continuous while Poisson is a probability distribution for a discrete random variable.

Question Number : 96 Question Id : 6589882116 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Which of the following do the normal distribution and the exponential density function have in common ?

Options :

1. Both are bell-shaped
2. Both are symmetrical distributions
3. Both approach infinity as x approaches infinity
4. Both approach zero as x approaches infinity

Question Number : 97 Question Id : 6589882117 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Which of the following distributions is suitable to measure the length of time that elapses between the arrivals of cars at a petrol station pump ?

Options :

1. normal
2. exponential
3. binomial
4. Poisson

Question Number : 98 Question Id : 6589882118 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

A multiple choice test has 30 questions. There are 4 choices for each question. A student who has not studied for the test decides to answer all the questions randomly by guessing the answer to each question. Which of the following probability distributions can be used to calculate the student's chance of getting at least 20 questions right ?

Options :

1. Binomial distribution

2. Poisson distribution
3. Exponential distribution
4. Uniform distribution

Question Number : 99 Question Id : 6589882119 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Which of the following cannot generate a Poisson distribution ?

Options :

1. The number of cars arriving at a parking garage in a one-hour time interval
2. The number of telephone calls received in a ten-minute interval
3. The number of customers arriving at a petrol station
4. The number of bacteria found in a cubic yard of soil

Question Number : 100 Question Id : 6589882120 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

As the standard deviation for a normal distribution becomes larger with an unchanged mean, the distribution becomes :

Options :

1. narrower and more peaked
2. flatter and wider
3. skewed
4. unchanged because the standard deviation does not change the shape of the distribution

Question Number : 101 Question Id : 6589882121 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

In a popular shopping centre, the waiting time for an ATM machine is found to be uniformly distributed between 1 and 5 minutes. What is the probability of waiting between 2 and 3 minutes to use the ATM ?

Options :

1. 0.20
2. 0.25
3. Less than 0.25 but more than 0.225
4. Less than 0.225 but more than 0.20

Question Number : 102 Question Id : 6589882122 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

The average mark on a stats test for a class of 25 students was 75%. If the 15 female students in the class averaged 70%, then what did the male students in the class average ?

Options :

1. 82.5%
2. 79.5%
3. 63.0%
4. 79.6%

Question Number : 103 Question Id : 6589882123 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

A population value or characteristic that is of interest to us and that we would like to estimate, is called :

Options :

1. a hypothesis
2. a statistic

3. inferential statistics
4. a parameter

Question Number : 104 Question Id : 6589882124 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Which of the following is not the goal of descriptive statistics ?

Options :

1. Summarizing data
2. Displaying aspects of the collected data
3. Reporting numerical findings
4. Estimating characteristics of the population

Question Number : 105 Question Id : 6589882125 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

The following ages are those of 15 people interviewed at a shopping centre : 12, 14, 15, 19, 19, 21, 27, 31, 32, 46, 56, 56, 57, 58, 59. Describe the shape of a stem and leaf plot of the data :

Options :

1. Unimodal and skewed to the right
2. Unimodal and skewed to the left
3. Bimodal
4. Symmetrical

Question Number : 106 Question Id : 6589882126 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

If you have data on the yearly average temperature at the airport from 1947 to 2019, and if you are particularly interested in change over time, what is the most effective graphical display ?

Options :

1. line chart
2. scatter plot
3. ogive
4. Histogram

Question Number : 107 Question Id : 6589882127 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

The difference between a histogram and a bar chart is that :

Options :

1. the histogram reflects qualitative data while the bar chart represents quantitative data.
2. the adjacent rectangles/bars in a histogram have a gap while those for a bar chart do not.
3. the histogram reflects both qualitative and quantitative data while the bar chart represents only qualitative data.
4. None of the three

Question Number : 108 Question Id : 6589882128 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Everyday, you make the trip from your home to work by car. The travel time to work from home is equally likely to be anywhere between 10 minutes and 25 minutes, but is never less than 10 minutes or more than 25 minutes. What is the probability that on a randomly selected day you will take more time than previous day but not more than 5 minutes to travel to work from home ?

Options :

1. $1/18$

2. $5/18$

3. $13/18$

4. $17/18$

Question Number : 109 Question Id : 6589882129 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

If A, B, C are three events with B and C being independent then $P(A|B)$ is equal to :

Options :

1. $P(A|B \cap C) P(C)$

2. $P(A|B \cap \bar{C}) P(\bar{C})$

3. $P(A|B \cap C) P(C) + P(A|B \cap \bar{C}) P(\bar{C})$

4. $P(A|B \cap C) P(C) - P(A|B \cap \bar{C}) P(\bar{C})$

Question Number : 110 Question Id : 6589882130 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

A rod of length 'b' cms. is broken into three parts at random. What is the probability that a triangle can be formed from the parts ?

Options :

1. $1/3$

2. $1/4$

3. $1/8$

4. $1/6$

Question Number : 111 Question Id : 6589882131 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

X and Y are two independent random variables having equal means and equal variances. Then the correlation coefficient between $X + KY$ and $KX + Y$.

S1 : increases as K increases.

S2 : negative for $K < 0$ and positive for $K > 0$

Select the correct answer from the following codes :

Options :

1. Both S1 and S2 are true
2. S1 is true but S2 is false
3. S1 is false but S2 is true
4. Both S1 and S2 are false

Question Number : 112 Question Id : 6589882132 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Consider the events A and B such that $P(A) = 1/4$, $P(B|A) = 1/2$ and $P(A|B) = 1/4$. The random variables X and Y are defined as :

$$X(w) = 1, \text{ if } w \in A \\ = 0, \text{ otherwise}$$

and

$$Y(w) = 1, \text{ if } w \in B \\ = 0, \text{ otherwise}$$

Which of the following is true ?

Options :

1. $P(X = 0 \cap Y = 0) = 5/8$
2. $P(X = 0 \cap Y = 1) = 1/8$
3. $P(X = 1 \cap Y = 0) = 3/8$
4. $P(X = 1 \cap Y = 1) = 1/8$

Question Number : 113 Question Id : 6589882133 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

The distribution function of any random variable is :

S_1 : always right continuous.

S_2 : may be discontinuous at countable number of points

S_3 : monotone non-increasing.

Choose the correct answer from the following :

Options :

1. S_1 and S_2 are true but S_3 is false
2. S_2 and S_3 are true but S_1 is false
3. S_1 and S_3 are true but S_2 is false
4. S_1, S_2 and S_3 all are true

Question Number : 114 Question Id : 6589882134 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

The probability mass function of a random variable X is given below :

$$f(x) = x/15; \quad x = 1, 2, 3, 4, 5 \\ = 0; \quad \text{otherwise.}$$

Then the conditional probability that X lies between $1/2$ and $5/2$ given that X is greater than 1 is :

Options :

1. $1/7$
2. $3/7$
3. $2/15$
4. $1/5$

Question Number : 115 Question Id : 6589882135 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Read the following statements carefully in context of the function given below :

$$F(x) = 0, \text{ if } x < 0 \\ = 3c^2, \text{ if } 0 \leq x < 1 \\ = 4c - 7c^2, \text{ if } 1 \leq x < 2 \\ = 9c - 7c^2 - 1, \text{ if } 2 \leq x < 3 \\ = 1, \quad \text{if } 3 \leq x$$

Assertion (A) : $F(x)$ can be cumulative distribution function of a continuous positive random variable for properly chosen value of 'c'.

Reason(R) : For proper choice of 'c', $F(x)$ is monotone and bounded between 0 and 1.

Select your answer from the following codes :

Options :

1. Both A and R is true and R is correct explanation of A
2. Both A and R is true but R is not correct explanation of A
3. A is true but R is false
4. A is false but R is true

Question Number : 116 Question Id : 6589882136 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Read the following statements carefully :

- S_1 : Poisson distribution is limiting case of Binomial distribution.
 S_2 : Poisson distribution is limiting case of Negative Binomial distribution.
 S_3 : Geometric distribution is special case of Negative Binomial distribution.

Choose the correct answer from the following :

Options :

1. S_1 and S_2 are true but S_3 is false
2. S_2 and S_3 are true but S_1 is false

3. S_1 and S_3 are true but S_2 is false
4. S_1 , S_2 and S_3 all are true

Question Number : 117 Question Id : 6589882137 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Mean is always less than variance for :

Options :

1. Negative Binomial distribution only
2. Geometric distribution only
3. Negative Binomial distribution and Geometric distribution both
4. Neither Negative Binomial distribution nor Geometric distribution

Question Number : 118 Question Id : 6589882138 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

The statistic defined as the distance between 70th sample percentile and 30th sample percentile gives us the information concerning :

Options :

1. central tendency
2. dispersion
3. skewness
4. kurtosis

Question Number : 119 Question Id : 6589882139 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

For a frequency distribution, a student calculated the value of β_1 and β_2 and reported these as 0.97 and 1.73 respectively.

Assertion (A): The student has committed calculation mistake.

Reason (R): The value of β_1 can never be less than 1.

Select your answer from the following codes :

Options :

1. Both A and R is true and R is correct explanation of A
2. Both A and R is true but R is not correct explanation of A
3. A is false but R is true
4. A is true but R is false

Question Number : 120 Question Id : 6589882140 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical Allowed Progression : Yes Number of Replay : 999 Play On Load :
No Control Enable : Yes

Correct Marks : 3 Wrong Marks : 1

Question Label : Multiple Choice Question

Consider the equations of lines $3X + 4Y = 45$ and $3X + Y = 27$. Choose your comment from the following codes in context of these lines representing the pair of regression lines :

Options :

1. The regression coefficient of Y on X is $-3/4$
2. The regression coefficient of Y on X is -3
3. The correlation coefficient between X and Y is $1/2$
4. These can never represent a pair of regression lines